

CHRONOLOGICAL CHART

OF THE

CATOCTIN IRON FURNACE

DATES	PROPERTY & LAND GRANT TITLES	
1970	CUNNINGHAM FALLS STATE PARK	STATE OF MARYLAND
1960	DEPARTMENT OF FORESTS AND PARKS 1954	
1950	NATIONAL PARK SERVICE	U. S. GOV'T.
1940	1937	
1930	E. A. NICODEMUS LANCELOT JACQUES and MR. HAUVER 1923	Private
1920	(IDLE)	INCORPORATED
1910	1912	
1900	J. E. THROPP 1905	
1900	BLUE MOUNTAIN IRON & STEEL COMPANY 1899	
1890	(IDLE) RECEIVERS 1892	PROPRIATORY
1890	CATOCTIN MOUNTAIN IRON COMPANY 1887	
1880	CATOCTIN IRON CO. 1885	
1870	JACOMB M. and JOHN B. KUNKEL	
1860	1859	
1850	FITZHUGH and KUNKEL 1856	
1840	PEREGRINE FITZHUGH 1843	
1830	JOHN BRIEN	
1820	1820	
1810	WILLOUGHBY MAYBERRY 1811	
1800	BAKER JOHNSON 1803	PATENTS FOR LAND
1790	THOMAS and BAKER JOHNSON 1793	
1780	JAMES JOHNSON & COMPANY 1774	
1770	LAND GRANT PROPRIATORS	
1760	CHARLES CARROLL JOHN VERNRESS JAMES JOHNSON	
1750		
1740		

RECORDED BACKGROUND AND DATES ASSOCIATED WITH THE CATOCTIN IRON FURNACE

**CATOCTIN
CHARCOAL
FURNACE
STACK No. 1**

**CATOCTIN
CHARCOAL
FURNACE
STACK No. 2
(Isabella)**

**CATOCTIN
ANTHRACITE
COKE
FURNACE
STACK No. 3
(Deborah)**

DISMANTLED
(DIRECTORY
1892:30)

1893
PRACTICALLY
DISMANTLED
(DIRECTORY
1904:365)

1903
DISMANTLED
(DIRECTORY
1908:413)
1900 - ENLARGED TO
60 x 13 FEET
(DIRECTORY 1904:276)
Annual Capacity
Increased to
15,000 Tons
of Pig Iron
1873
CONSTRUCTED
50 x 11½ FEET
INSIDE STACK
(DIRECTORY 1888:32)
Annual Capacity
9,000 Tons of Pig Iron

1856
CONSTRUCTED
33 x 9 FEET
INSIDE STACK
(DIRECTORY 1888:32)
Annual Capacity
3,300 Tons
of Pig Iron
(DIRECTORY 1892:30)

1831 - ENLARGED TO
33 x 9 FEET
(LESLEY 1859:50)
Annual Capacity
1,700 Tons
of Pig Iron

1787 - REBUILT - Annual Capacity
900 Tons - (12 to 18 Tons Weekly)

1774
CONSTRUCTED
32 x 8½ FEET
INSIDE STACK
(DIRECTORY 1888:32)
Annual Capacity
600 to 900 Tons
of Pig Iron

PRELIMINARY HISTORICAL REPORT
ON THE
CATOCTIN IRON FURNACE
by

Dr. Charles W. Porter, Assistant Historian
May 11, 1936

44
18

The Johnson family of Maryland was for many years interested in the iron trade. (1) In 1770, Thomas Johnson (later, Governor Johnson) and a Mr. Jacques erected a furnace in Washington County on Green Spring Run, one mile above its entrance into the Potomac River, and some distance from the park area. The neighboring ore was not of good quality and the furnace is said to have been abandoned in 1775. About that time the Johnsons sold their interests in the iron furnaces west of South Mountain, to Lancelet Jacques and his nephew, Denton. (2)

During 1774, James Johnson, who was four years younger than Thomas Johnson, established furnaces near Frederick Town, and took in his brothers as partners, viz., Governor Thomas Johnson, Baker, and Roger Johnson. (3) J. H. Alexander, in his Report on the Manufacture of Iron Addressed to the Governor of Maryland. (Printed by order of the Senate, Annapolis, 1840), says with regard to the first Catoctin Iron Furnace:

"Catoctin furnace, situate about twelve miles northwest of Fredericktown, and within a mile of the present [1840] furnacestack, 'was built in the year 1774, by James Johnson and Company and was carried on successfully until the year 1787; ' in which year, the same company erected the present furnace ' about three-fourths of mile further up Little Hunting Creek, and nearer the ore banks.'"

Alexander obtained this information about 1839-1840 from James Johnson of Baltimore, a descendant of the early owners of the furnace. (L) Since this data was furnished within forty-three years of the alleged building of the stack, it necessarily carries considerable weight. It has been accepted as being correct

15

by the best authorities on the history of the iron industry in Maryland, notably, J. T. Singewald and J. M. Swank. (5)

Briefly, the first Catoctin Iron furnace was built in 1774 on a site about a mile from the present furnace stack and quite outside of the park area. In a chronological table of Maryland Iron furnaces, this first iron furnace at Catoctin (1774) ranks sixteenth, i. e., there are fifteen furnace sites in Maryland antedating the earliest one at Catoctin. (6) Inspector Nicolet says that he had not been able to find any trace of this early furnace. Considering the lapse of time, this is not surprising. In his history of the Catoctin Ore Banks, Singewald says that, "The bank back of Dr. McPherson's house was opened in 1774 by James Johnson and Company and the ore smelted in a furnace erected on the property." (7) The existing remains of the furnace should therefore be sought at this spot, "Back of Dr. McPherson's house." If there is anything left of the furnace, perhaps the land can be purchased and added to Catoctin park.

The furnace stack at Catoctin Park is either the one built in 1787, or near the one built in that year. Unless reliable evidence can be found to prove that Alexander, Swank, and Singewald are wrong in accepting this date, as the proper one for the building of the second furnace, we must abandon the claim made in some of the project applications which state that the existing stack made war materials for Washington's Army. Similarly, an examination of the John Fitch Papers, the Washington Papers, and other sources in the Library of Congress, shows that the existing stack could hardly have made iron for James Rumsey's steamboat. The "steamboat" made its trial trip the same year that the furnace stack was built; i. e., 1787, and we have proof that the boiler, pumps, and pipes were made in Baltimore and that other parts were made at the Antietam Iron Works. (8)

With regard to the history of the second or 1787 tract, Singewald says: "This was operated by James Johnson and Company until 1793, when division was made among the brothers by lot. Catoctin fell to Thomas and Baker Johnson, two-thirds and one-third, respectively, who carried it on not very successfully until 1803, when Baker Johnson bought out his brother and rented to Benjamin Blackford for ten years at \$1100.00." (9)

Records at Frederick County Court House bear out the above statements. About 1788, Governor Thomas Johnson and his three brothers bought additional real estate for the furnaces and also four negro slaves from an ironmaster. (10) Among the James McHenry Papers in the Library of Congress is a letter from Thomas Johnson to the Secretary of War, date Frederick, Feb. 12, 1800, saying that "upwards a year ago" he made a proposition for furnishing shot "but never had the satisfaction of hearing more on the subject." (11) On May 6, 1802, Thomas Johnson deeded 2,026 acres of land to Baker Johnson (12) A deed from Nicholas Carroll, Esquire, of Annapolis to Baker Johnson, recites that the said Nicholas Carroll owned the "First Dividend" tract at Catoctin as legatee of Charles Carroll, barrister, deceased, "from whose agent Thomas Johnson long since purchased all such parts of ad. tract which were not included in earlier surveys" and that in the division of property between James Johnson and Company this part fell to Thomas and Baker Johnson, and that since the division aforesaid Baker Johnson purchased all his, the said Thomas Johnson's right and claim in the furnace and land thereto belonging. (13) Thus by 1803, Baker Johnson was sole owner of the Catoctin furnace.

Colonel Baker Johnson's will was probated at Frederick County Court House July 1, 1811. It mentions lots and houses in Frederick and numerous farms. His son Baker Johnson, was given "a place where he now lives" called "Auburn;" and "the Catoctin furnace and all land annexed thereto" was left to four

daughters, with the direction that the executors lay off the bounds of same and
(14)
sell both the furnace and furnace lands for their benefit.

A clause in the codicil of the above will says: "It is also my will and desire that my Executors shall cause to be laid off and run out a line from the gate which stands between the overseers house and the other farm house running a course with the commencement of the fence to intersect the first line of the Green Spring trace (west of South Mountain?), also another line to be run from the said gate to the end of the stone fence that is begun to be made on the side of the road leading to my son Baker's House (i. e., "Auburn" - the line evidently ran East and West).

This reference to the stone wall should help us to discover the use of the house at the furnace site. It seems to have been the overseer's house or "the other farm house." The Johnsons were too wealthy and too socially prominent to have had a blast furnace virtually in their front yard! .

On August 15, 1811, Catocton furnace and the furnace lands were sold by Colonel Johnson's Executors to Willoughby and Thomas Mayberry of Philadelphia
(15)
for 12,500 pounds current money of Maryland. After some time the Mayberry partnership was dissolved and the furnace carried on by Willoughby Mayberry until 1820, when it was sold by trustees to John Brien, who made extensive improvements in the works. In 1840 the furnace was in the possession of Mr. Brien's heirs. According to Alexander, the yield was then twelve to eighteen tons of iron per
(16)
week.

John McPherson, trustee for the heirs of John Brien and other interested parties (apparently creditors), sold the furnace in 1843 to Peregrine Fitzhugh,
(17)
of Washington County, Maryland. The previous operators had converted their pig iron into hollow ware, i. e., stoves, kettles, etc.; but Fitzhugh is said to have also shipped pig iron to Frederick. Fitzhugh's operations seemed to

have steadily involved him in debt. On Nov. 26, 1856, he sold a half interest in the furnace and lands to Jacob M. Kunkel for \$35,000.00. The deed mentions 7000 acres of land, the Catoctin Iron Works, six teams of horses and mules, wagons and harness, "coal on hand," 1400 cords of wood on hand, the ore mined, the furnace, railroad cars, furnace tools, Blacksmith and Carpenter's tools, wagons, carts, farming utensils, and "the Car mules, Bank mules, and Cart mules." (18) The firm of Fitzhugh and Kunkel was dissolved on April 21, 1858, and the whole furnace mortgaged to Jacob M. Kunkel, with the understanding that Fitzhugh was to operate the furnace for one year and apply the net proceeds to the partnership debts. (19) During 1859, Fitzhugh erected a steam cold-blast charcoal furnace, but the expense crippled him and the furnace passed into the hands of John B. Kunkel and was operated by John B. Kunkel, Jr., and Jacob M. Kunkel, sons of John B. Kunkel, until 1866, when Jacob M. Kunkel sold his interests to his brother (20) John.

The Maryland Geological Survey, Vol. IX (1911) pp. 146-147, states that the Kunkels abandoned the hollow-ware furnace, but that in 1873 John B. Kunkel put up a third furnace, an anthracite and coke furnace, with a capacity of thirty-five tons a day. Three years later, Kunkel took out a patent for the elimination of phosphorus from pig iron by the use of magnesian limestone - a process that produced no notable results. The annual output at this period was (21) 1200 tons. The tax assessment books for 1876 charged John B. Kunkle with 10,000 acres of mountain land valued at \$30,000.00 and

and "Improvements, dwelling house, three furnaces, warehouses, shops, storehouse, and 50 tenant houses valued at \$40,500.00. Among other items listed were two steam engines, \$3,000.00, and thirty cars (22) assessed at \$300.00. The output at this period was used for (23). foundry and milling purposes and for manufacturing car wheels.

The furnace stack now at Catoclin may be any one of the three furnaces listed on the tax books as standing in 1876. A dated brick in the furnace stack may settle this point, if such a brick can be found.

The history of the Catoclin furnaces from 1876 to 1911 is summarized in the Maryland Geological Survey, Vol. IX, pp. 147-148. I have checked most of it by the Frederick County deed books.

John B. Kunkel died in 1885. His children organized the Catoclin Iron Company, which closed down in 1887 at which time the company went into the hands of receivers. After the receivers had operated the plant for a year the Catoclin Mountain Iron Co. was formed with an output of thirty tons a day. It lasted until 1892, when it shut down because of the low price of iron. The Blue Mountain Iron and Steel Co. bought the plant in 1899, began operations in 1900, and continued with an output of about forty tons a day until 1903 when it discontinued. The Trustees in Bankruptcy for the Blue Mountain Iron and Steel Company sold the furnaces on Feb. 19, 1906, to Joseph E. Thropp of Pennsylvania for \$51, 135.00. About that time the Iron Works were dismantled. Thropp continued to operate the mines at Catoclin for many years, but the ore was shipped to his furnaces in (24) Pennsylvania. Lancelot Jacques and a Mr. Hauver bought the property on July 16, 1923. (25) A casual glance at the tax books shows

that Jacques had at least 6,242 acres of the tract in 1928, part of which was sold to Lawrence Richey in 1929 and another part to the Potomac Hills Development Company about 1932. (26)

Conclusion: My trip into Maryland to study the historical importance of the Catoctin Iron Furnaces was interrupted by the necessity of meeting H. S. Day at Halifax for an archaeological reconnaissance of the Staunton River Park Area. However, in the five and a half days devoted to the Catoctin problem a considerable body of useful data was collected. This material shows that in a chronological table of Maryland Iron Furnaces, the first iron furnace at Catoctin (1774) ranks sixteenth, i. e., there are fifteen furnace sites antedating the Catoctin furnace of 1774. The most reliable authorities say that the furnace was rebuilt in 1787 "about three-fourths of a mile further up Little Hunting Creek," about a mile from the earlier furnace. Unless this statement can be positively disproved, we must abandon the claim made in some of the project applications which state that the existing stack made war materials for Washington's Army. Similarly, an examination of the John Fitch papers, the Washington papers and other sources in the Library of Congress shows that the existing stack could hardly have made iron for James Rumsey's steamboat. The "steamboat" made its trial trip in 1787 - the same year that the stack was built and we have proof that the boiler, pumps, and pipes were made in Baltimore and other parts of the Antietam Iron Works. The claim that Catoctin made iron for the Monitor is based on nothing more solid than a reference to "Frederick Citizen" in a popular history of Frederick County, a reference that is worthless. Until more reliable evidence is found, this claim will also have to be abandoned. The historical importance of Catoctin must be based on other than such

exaggerated claims. Governor Thomas Johnson is one of the outstanding Revolutionary heroes of Maryland and he was for years associated with the Catoctin Furnace as a member of the firm of James Johnson and Company. Carrolls and Calverts are named in some of the early deeds relating to Catoctin. An historical study of the original source materials might reveal the part that these two famous Maryland families played in the early development of Catoctin. Presumably, the iron works at the second or 1787 site were of importance during the War of 1812 and the Civil War. The fact that three furnace stacks were standing at Catoctin in 1876 increases the difficulty of discovering the age of the stack that is standing today. In short, the preliminary investigation has shown the need for a careful historical study and check-up of the Catoctin area. This is a job that would require six months or a year of any competent historian's time. The need for an historical foreman as well as an archaeologist is therefore apparent if the historical work at Catoctin is to be adequately performed.

- (1) T. J. C. Williams, History of Frederick County, Maryland (2 Vols., Frederick, 1910) I, 335.
- (2) Maryland Geological Survey, Vol. IX (1911) p. 143., E. S. Delaplaine, Life of Thomas Johnson (N. Y., 1927) pp. 351-353.
- (3) Ibid., pp. 351-352.
- (4) J. H. Alexander, Report on the Manufacture of Iron (1840) pp. 78-79.
- (5) J. T. Singewald, Jr., "Report on the Iron Ores of Maryland, with an Account of the Iron Industry," Maryland Geological Survey, IX (1911) p. 146; J. M. Swank, History of Iron (1884) p. 194.
- (6) Maryland Geological Survey IX (1911) p. 177
- (7) Ibid., p. 201
- (8) Library of Congress, John Fitch Papers, II, 1989-1991, 2041, 2052, 2055; Delaplaine, Life of Thomas Johnson, 402.
- (9) Maryland Geological Survey, IX (1911) p. 146

- (10) Frederick County, Md., Bk. W. R., No. 3, folio 285.
- (11) Library of Congress, James McHenry Papers, VI, 1799-1804, Johnson to McHenry, Feb. 12, 1800.
- (12) Frederic County Land Records, W. R. No. 12, folio 499 ff.
- (13) Ibid., W. R. No. 25, pp. 201-202
- (14) Ibid., Will Bk. R. 3. No. 1, pp. 192-200
- (15) Ibid., deed Bk, W. R. No. 41, pp. 637-641.
- (16) Ibid., Bk. H. S. No. 19, pp. 213-215; Maryland Geological Survey, IX (1911) p. 146.
- (17) Frederick Co. Land Records, B., H. S., No. 19, pp. 213-215.
- (18) Ibid., B., E. S. No. 9, pp. 98-99.
- (19) Ibid., Bk., B.G.F. No. 1, pp. 503-504.
- (20) Ibid. Bk. J. W. L. C. No. 4, pp. 278-279; Will of John Kunkel (1861), Ibid., Bk. A. P. K. No. 1, pp. 85-86; Deed, Jacob M. Kunkel to John B. Kunkel, Bk. J. W. L. C. No. 4, pp. 159-160; Maryland Geological Survey, IX (1911) pp. 146-147.
- (21) Ibid., IX (1911) pp. 146-147
- (22) Frederick County Court House, Tax Assessment Bk. 1876, No. 15 Page 80.
- (23) Maryland Geological Survey IX (1911) pp. 146-147
- (24) Frederick County, Md., Deed Bk. S. T. H. No. 284, pp. 567-571.
- (25) Ibid., Tax Bk., 1923.
- (26) Ibid., Tax Bks. 1923-1932.

Respectfully submitted

Charles W. Porter
Assistant Regional Historian

Taped interview with Mr. Renner, elderly informant - Catoctin Furnace, Frederick Co. Md. Aug. 27, 1975.

B25

Info on the furnace yard: next door to the casting house they used to make kitchen utensils (i.e. ladles and pans). Here in this casting they were only making the pigs - that was it.

Ron: "What would they do with the sow? Would they take the 150 lb. block and ship it as it was?"

Mr. R: Yeah, most went to Delaware for car wheels, and they got to making railroad.

Ron: Is there a picture of that "sow".

Mr. R: Don't know, never seen any (photo).

Ron: What would they do with that sow (in working with it)?

Mr. R: Same thing (as pigs), they were bigger and they would take them down to the ~~forger~~ forge. There they'd heat them and beat them and beat them, then they'd make nails and all kinds of gageets (beating of the iron was necessary to make it tough. You see, the pigs were of no value til it was forged out to make wrought iron. This forge (pts. on map to a place nearby) had a race way and you can still see the wheel pit in the dam. "He speaks of the state road having been built (1912) right through the middle of the old forge, destroying everything in its way. He points to where part of the Catoctin furnace yard was destroyed by the road cutting through. Mr. R (indignant) "you see they'll do that every time".

Ron: Is there any other information that you might have in terms of what we could be found at the mouth of the old furnace - remnants of the runners?

Mr. R: You might, that's filled up there a lot (referring to the ground and grass cover in front of iron hole site).

Ron: speculates that there could have been one runner coming down one side from the mouth of the furnace.

Mr. R: indicates that there were two troughs lined with fire clay on either side of the "iron hole". You'd get these troughs ready for the iron to run down. "Then they'd have to reline them after every pourin' cause the molten iron burn most of it out". He again comments that the area where the trough should be was "filled up" (covered over).

Ron: Would they have to reline the troughs everytime - did that mean three or four times a day?

Mr. R: no it would be twice a day that they would draw this (the molten iron)

Ron: The a supply of clay had to be on hand if it was necessary to put in the clay (in the troughs) twice a day.

Mr. R: yep, that was regular fire clay, when they lined the troughs and got it all set, then they'd knock that pin out 'pish!', out she'd come, pish! ", he exclaimed, making the sound of the hissing rushing, molten iron. When she hit here (a no. of ft. from furnace mouth) she was level, perfectly level, as it would run down, it would keep a goin' out and out and out til it would run full (all the runners- sow and pigs)."

Dave: what would happen, sir, if there was too much pig iron coming out?

Mr. R: Well, this was all made that they would always have enough 12 - 13 tons. It wouldn't take that much iron to have enough; with 2 runners it would sufficiently take up several tons. (I don't think this answered Dave's question about the problem of over-spill).

Dave: Were the runners higher than the floor?

Mr. R: Yes, you see they'd run down and then run out here in a level way (beyond the opening of the furnace arch).

Ron: and how many sows and pigs would there be - how far would the molten iron run before

molten iron run before it reached the end of its course.

Mr. R: It would run all the way to the other end of the casting house (the opposite wall).

Ron: How many ft. was it before the first sow was reached by the molten iron?

Mr. R: About right in here (he points to the ground just outside the furnace arch, approx. even with outside base of furnace. Thence every 4 ft. there would be another 4 ft.; the whole thing was a runner with ripples at 4 ft. intervals so that the iron could be broken at that point (where it thinned out)).

Ron: So in actuality the sows were all part of the runner. How many pigs (do you remember) ran off each sow.

Mr. R: I don't know - about a dozen, 6 or 8 on each side, 3 or 4 ins. apart with sand in between. (In response to my question about the molten iron running all the way to the end without getting cold or hardening: the molten iron would flow into all the pig beds over ripples (the pigs had them). "Pish, out it would come with enough force to go clear to the end. Any accident (i.e overflow probably not common) and anything small could be put back in the furnace and be remelted. In a couple of seconds it would be out and down here (towards opp. wall that we were walking to as we talked). The molten iron had to be watched because of the pressure - molten iron has tremendous pressure. Soon as the bubbles began to come they'd throw the shoot over and run it out over here (off to side) in a puddle and then water would be run on it to cool it. It would be "snapped?" out and hauled out on a mule cart to the dump.

Ron: So all these memories stem from your experience back in 1899 and when you were growing up. Were they continuing with the same iron making process up into the 19 teens of this century?

Mr. R: Yes, that's right.

Further info about making of pig iron on the casting house floor:

- 1) a new runner was made every time a new cast was made.
- 2) the forms made in the sand with the pig molds were kicked or raked over (smoothed over) after each casting - molten iron run, hardening and removal of the sow and pig iron.
- 3) Mr. R.'s experience: I worked in a foundry (Bethlehem Steel, Pa. making switch stays and lamp parts as a molder's helper. I came to visit this abandoned casting house while passing through with a friend (for shopping purposes in a nearby settlement) back in 1907, and the casting floor used to still be here. There were a few piles of things around, but no floor (with the pig molds) in evidence. As he mentioned earlier they were made of sand and could be easily kicked over. The wooden forms that were pressed into the sand appeared to have been removed from the premises. He believes that the troughs were of cast iron and could still be seen with fire clay in them?
- 4) Did your boys (WPA type team) do any digging here in the 1930's? Mr. R. mentioned 3 or 4 ft. being removed (this is of later fill on top of the present surface). And that they might have been responsible for the fill (Coal, ash and brick to the east of Sq. 10R10, thus towards opp. wall away from furnace, and not the west fill closer to the mouth or arches seen in the east end of trench # 1.